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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,019	03/15/2004	Laurent Habib	HABIB3	6805
1444	7590	05/18/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C.			LE, HOANGANH T	
624 NINTH STREET, NW			ART UNIT	
SUITE 300			PAPER NUMBER	
WASHINGTON, DC 20001-5303			2821	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/800,019

Applicant(s)

HABIB ET AL.

Examiner

HoangAnh T. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-28 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 8 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

HoangAnh Le  
Primary Examiner

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/29/04.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5,9,10,12-16,20,21,23-26,30,31 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al (the US Patent No. 6,844,851).

The Yoon et al reference teaches in figure 2 a microwave antenna for transmitting and/or receiving electromagnetic waves of at least one predefined frequency and a predefined polarization, the antenna comprising a support 210,220 with upper and lower faces; at least one pair of substantially identical upper and lower radiating elements disposed on said upper and lower faces; in each pair of said radiating element in the upper face and the corresponding radiating element in the lower face, the phase center of the lower radiating element substantially coincides with the phase center of the upper radiating element (figure 3). The support is conformal. The

support is substantially planar (figure 2). The predefined polarization is a circular polarization, and wherein each of said radiating elements is capable of radiating electromagnetic waves of a circular polarization (see abstract). The radiating elements comprise bend-shaped (figure 3). The predefined polarization is a linear polarization (see abstract). The radiating elements comprise radiating elements having first and second branches arranged in an acute angle with respect to each other (figure 3). The pair of substantially identical upper and lower radiating elements disposed on said upper and lower faces inherent yields gain increase in the range of 1dB-3dB. Figure 2 shows a multi-layered substrate structure.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6,7,17-19,27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al (cited above) in view of Tsai et al (the US Patent No. 6,424,311).

The Yoon et al reference teaches every feature of the claimed invention, excluding the bend-shape being an L-shape, the L-shape having first and second branches and a feed point located on the second branch such that the electric current

generated in the second branch is phase delayed in  $90^\circ$  with respect to the electric current generated in the first branch.

The Tsai et al reference teaches in figure 2 a dipole antenna comprising at least two dipole antenna elements having bend shaped elements, the bend-shape being an L-shape, the L-shape having first and second branches 112,113 and a feed point 5 located on the second branch 112 such that the electric current generated in the second branch is phase delayed in  $90^\circ$  with respect to the electric current generated in the first branch in order to maximize radiation efficiency of the antenna (col. 2, lines 23-24). Figure 2 shows the upper and lower radiating elements being symmetrically arranged such that the first branches of the upper and lower elements are in parallel.

Since one of ordinary skill in the art would recognize the benefit of maximizing radiation efficiency of the antenna, it would have been obvious to provide Yoon et al with the dipole antenna elements having bend shaped elements, the bend-shape being an L-shape, the L-shape having first and second branches and a feed point located on the second branch as taught by Tsai et al.

6. Claims 11,22, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al and Tsai et al as applied to claims 6,7,17,18,19,27, and 28 above, and further in view of Audenaerde et al (the US Patent No. 6,166,702).

Yoon et al and Tsai et al teach every feature of the claimed invention, excluding the electrical length of the first branch being  $0.5 \lambda$ .

Audenaerde teaches the length of each of dipole radiating elements being  $0.5 \lambda$  (col. 2, lines 29-30) in order to improve the characteristic of the antenna.

Since one of ordinary skill in the art would recognize the benefit of improving the characteristics of the antenna, it would have been obvious to provide Yoon et al/Tsai et al with the dipole antenna elements having the length being  $0.5 \lambda$  as taught by Audenaerde.

***Allowable Subject Matter***

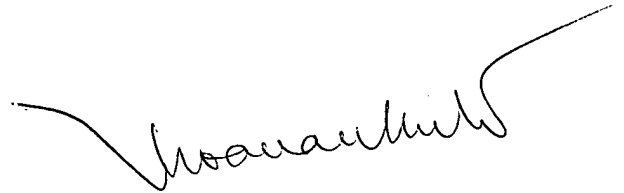
7. Claims 8 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses the L-shape having an X branch and an orthogonal Y branch, and wherein: the length A of the X branch and the length B of the Y branch are substantially identical and depend on said predefined frequency according to the relation:  $A, B = K \lambda$ , K is in the range of 0.3 to 0.35; the widths C of the X and Y branches depend on said predefined frequency according to the relation:  $C = K \lambda$ , K is in the range of 0.10 to 0.20; the length D between the X branch of said upper radiating element and the X branch of said lower radiating element depend on said predefined frequency according to the relation:  $D = K \lambda$ , K is in the range of 0.3 to 0.6; the length E between the Y branch of said upper radiating element and the Y branch of said lower radiating element depend on said predefined frequency according to the relation:  $E = K \lambda$ , K is in the range of 0.3 to 0.6; wherein  $\lambda$  is the wavelength of said predefined frequency in air.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**HoangAnh Le**  
**Primary Examiner**